

C) REMARKS

I. GENERAL

Claims 1, 3-7, 11, 12, 14, and 15 are currently pending in this application, claims 2, 8-10, and 13 have been canceled either previously or by this Amendment, and claims 1 and 5-7 have been amended. The issues in the Current Action are as follows:

- The oath or declaration is objected to as being defective;
- The specification contains informalities;
- Claims 8 and 9 are objected to as being substantially duplicates of claims 3 and 4;
- Claims 1, 3-9, 11-12, and 14-15 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter; and
- Claims 1, 3-9, 11-12, and 14-15 are indicated as containing allowable subject matter.

In response, Applicant hereby traverses the rejections and requests reconsideration and withdrawal in light of the remarks contained herein.

II. EXAMINER INTERVIEW SUMMARY

On July 14, 2010, an in-person discussion was held between the Examiners, Toan Le and Edward Cosimano, and Applicant's representative, Huyen Luong (Registration No. 61,052). Applicant would like to express appreciation to the Examiners for their time and consideration in conducting the interview. Applicant respectfully submits this summary of the substance of the interview in accordance with M.P.E.P. §713.04.

During the interview, Applicant's representative presented arguments that the pending claims are directed toward statutory subject matter. Specifically, independent claim 1 satisfies the machine or transformation test, and in addition, it is not directed to an abstract idea. No

agreement was reached regarding this issue. Proposed amendments to overcome the 35 U.S.C. §101 rejection were also discussed.

III. DEFECTIVE OATH OR DECLARATION

Applicant respectfully points out that a non-English language is acceptable as long as it is in accordance with PCT Rule 4.17(iv). *See* MPEP § 602.06. The current declaration is in accordance with PCT Rule 4.17(iv) because it uses an approved PCT form: PCT/RO/101. Nevertheless, Applicant will submit a new declaration in English.

IV. AMENDMENTS

The specification has been amended to correct informalities identified by the Examiner. Claims 1 and 5-7 have been amended. Support for the amendments can be found in the specification at, *e.g.*, page 1, lines 9-12. Further, claims 1 and 5-7 have been amended to better clarify the invention. As such, no new matter has been added, and no new issues have been raised that would require a new search or consideration.

V. CLAIM OBJECTIONS

Claims 8 and 9 are objected to as being substantially duplicates of claims 3 and 4. Applicant has canceled claims 8 and 9, thereby obviating the objections.

VI. REJECTIONS UNDER 35 U.S.C. § 101

Claims 1, 3-9, 11-12, and 14-15 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicant respectfully traverses the rejection by explaining below that the claims are, indeed, directed toward at least one class of patent-eligible subject matter.

Independent Claims

Claims 1, 3-9, 11-12, and 14-15 are directed to a “method” and therefore are considered process claims for the purposes of 35 U.S.C. § 101. The sole basis for the Current Action’s contention that claims 1, 3-9, 11-12, and 14-15 are unpatentable under 35 U.S.C. §101 is that they allegedly fail to satisfy the machine-or-transformation test. *See* Current Action, pgs. 3-4. As an initial point, Applicant disagrees with this contention. For example, claim 1, as amended, recites in part “said resolution of the data series used for determining the topography of the

subsurface” (emphasis added). Claims 5-7 recite a similar limitation. Accordingly, the claims recite the output of the method is used for determining the topography of the subsurface. Thus, claims 1 and 5-7 at least meet the transformation test because the claims transform a particular article, *e.g.*, the input seismic data, to a different state or thing. That is, there is transformation because “the data has been changed such that it has a different function or is suitable for a different use.” *See* Current Action, pg. 4. Therefore, Applicant respectfully requests that the rejection of record be withdrawn.

Moreover, the U.S. Supreme Court’s recent decision in *Bilski v. Kappos* clarified that the machine or transformation test is not the sole test for patent-eligibility of processes under 35 U.S.C. § 101. As the Supreme Court explained in *Bilski*, 35 U.S.C. § 101 specifies four independent categories of inventions or discoveries that are patent eligible: “process[es],” “machin[es],” “manufactur[es],” and “composition[s] of matter In choosing such expansive terms, . . . Congress plainly contemplated that the patent laws would be given wide scope” to ensure that “ingenuity should receive a liberal encouragement.” The Supreme Court further explained that its precedents provide three specific exceptions to 35 U.S.C. § 101’s broad principles: “laws of nature, physical phenomena, and abstract ideas.”

Because the Office Action does not provide any further reasoning or support for its rejection of claims 1 and 5-7 under 35 U.S.C. § 101 (other than solely relying upon the machine-or-transformation test), the rejection cannot stand in light of the Supreme Court’s decision in *Bilski*. Specifically, the U.S. Patent and Trademark Office has provided instructions that various factors must be considered in determining patentability. *See* 75 Fed. Reg. 43925-43928 (July 27, 2010). Therefore, the rejection should be withdrawn.

Moreover, if the Examiner contends that the claims are directed to one of the three specific exceptions (laws of nature, physical phenomena, and abstract ideas) recognized by the Supreme Court’s precedents, the reasoning for such new grounds of rejection should be detailed in a new, non-final Office Action to afford Applicant a full and fair opportunity to respond thereto.

Further, it has been recognized that method claims concerning seismic data processing recite statutory processes, *e.g.*, do not claim an abstract idea. *See In re Johnson*, 589 F.2d 1070 (C.C.P.A. 1978). In *Johnson*, the court recognized that “the claim when analyzed in its entirety

still defines a process for producing a segment of a seismic trace, which is free from a multiple noise event, from a segment of the trace which includes the multiple noise event [I]t is clear that the claim as a whole defines a sequence of steps for operating upon a seismic data trace to produce a different, noise-free seismic data trace. [W]e . . . conclude claim 1 recites a statutory process.” *Id.* at 1080. “Appellants do not assert a recitation of a formula or a method of calculation as a basis for patentability of the recited processes, and it is clear that any mathematical operations performed in practicing the processes are incidental to the recited series of steps whereby a seismic data record is analyzed and processed in a specific manner to produce and record a noiseless seismic data record.” *Id.* at 1081.

Specifically, the claim 1 mentioned by the quoted portion of *Johnson* is set forth below:

1. A process for suppressing multiple events in seismic traces comprising the steps of:
 - a) comparing a first seismic trace segment with a second segment of the same trace to select that portion of the second segment which most closely resembles said first segment;
 - b) determining the degree of similarity between said selected portion and said first segment; and
 - c) extracting a part of said selected portion from said first portion, said part being a function of the degree of similarity between said selected portion and said first segment.

Id. at 1074.

Similar to *Johnson*, the pending claims do not assert a recitation of a formula or a method of calculation as a basis for patentability of the recited processes. Any mathematical operations performed in practicing the processes are incidental to the recited series of steps to obtain the angle of gather of reflectivity. Accordingly, claims 1 and 5-7 are patentable because they are not directed laws of nature, physical phenomena, or abstract ideas. Therefore, Applicant respectfully requests withdrawal of the rejection of record.

Dependent Claims

The dependent claims depend directly or indirectly from claims 1 and 5-7, respectively, and inherit every limitation therefrom. As shown above, claims 1 and 5-7 are directed to

statutory subject matter. Therefore, the dependent claims are patentable at least by virtue of their dependency from independent claims 1 and 5-7.

VII. CONCLUSION

In view of the above, Applicant believes the pending application is in condition for allowance. Applicant submits a fee in the amount of \$1100 for petition for extension of time (three months). Please charge any additional fees required or credit any overpayment to our Deposit Account No. 06-2375, under Order No. HO-CGGV.P0013.US/11006847, pursuant to 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees, from which the undersigned is authorized to draw.

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Respectfully submitted,

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